

342-3PCT.ST25.txt
SEQUENCE LISTING

<110> Sahin Dr., Ugur
Türeci Dr., Özlem
Koslowski Dr., Michael

<120> Genetic Products Differentially Expressed in Tumors and Use Thereof

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<170> PatentIn version 3.1

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Leu Gln His Gly Ser Leu Phe Phe Ser Thr Ser Lys Ile Thr Ser Gly
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Lys Asp Tyr Ser Val Ser Ala Asn Ser Arg Ile Val Ile Val Thr Ala
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 35 40 45

Leu Asp Ser Ala Arg Phe Arg Tyr Leu Ile Gly Glu Lys Leu Gly Val
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His Pro Thr Ser Cys His Gly Trp Ile Ile Gly Glu His Gly Asp Ser
 65 70 75 80

Ser Val Pro Leu Trp Ser Gly Val Asn Val Ala Gly Val Ala Leu Lys
 85 90 95

Thr Leu Asp Pro Lys Leu Gly Thr Asp Ser Asp Lys Glu His Trp Lys
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Asn Ile His Lys Gln Val Ile Gln Ser Ala Tyr Glu Ile Ile Lys Leu
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Lys Gly Tyr Thr Ser Trp Ala Ile Gly Leu Ser Val Met Asp Leu Val
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Gly Ser Ile Leu Lys Asn Leu Arg Arg Val His Pro Val Ser Thr Met
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Val Lys Gly Leu Tyr Gly Ile Lys Glu Glu Leu Phe Leu Ser Ile Pro
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Cys Val Leu Gly Arg Asn Gly Val Ser Asp Val Val Lys Ile Asn Leu
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 35 40 45

Leu Asp Ser Ala Arg Phe Arg Tyr Leu Ile Gly Glu Lys Leu Gly Val
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His Pro Thr Ser Cys His Gly Trp Ile Ile Gly Glu His Gly Asp Ser
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Pro Asp Cys Lys Ile Leu Val Val Ser Asn Pro Val Asp Ile Leu Thr
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ctttccaacc	ctgccacatg	ttcatatatc	ctaaatctat	cctaaatggt	cccttgaagt	2040
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<210> 21

<211> 2222

<212> DNA

<213> Homo sapiens

342-3PCT.ST25.txt

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 tgaacacacc ccaggctctt ctgaccggca gtggctctgg aagcagtctg gtgtatagag 240
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342-3PCT.ST25.txt

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 gccacatggt catatatcct aaatctatcc taaatgttcc cttgaagtat ttatttatgt 2160
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<211> 551

<212> PRT

<213> Homo sapiens

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 35 40 45
 Ala Ala Arg Val Ser Pro Ile Ser Glu Ser Val Leu Ala Arg Leu Ser
 50 55 60
 Lys Phe Glu Val Glu Asp Ala Glu Asn Val Ala Ser Tyr Asp Ser Lys
 65 70 75 80
 Ile Lys Lys Ile Val His Ser Ile Val Ser Ser Phe Ala Phe Gly Leu
 85 90 95
 Phe Gly Val Phe Leu Val Leu Leu Asp Val Thr Leu Ile Leu Ala Asp
 100 105 110
 Leu Ile Phe Thr Asp Ser Lys Leu Tyr Ile Pro Leu Glu Tyr Arg Ser
 115 120 125
 Ile Ser Leu Ala Ile Ala Leu Phe Phe Leu Met Asp Val Leu Leu Arg
 130 135 140
 Val Phe Val Glu Arg Arg Gln Gln Tyr Phe Ser Asp Leu Phe Asn Ile
 145 150 155 160
 Leu Asp Thr Ala Ile Ile Val Ile Leu Leu Leu Val Asp Val Val Tyr
 165 170 175

342-3PCT.ST25.txt

Ile Phe Phe Asp Ile Lys Leu Leu Arg Asn Ile Pro Arg Trp Thr His
 180 185 190
 Leu Leu Arg Leu Leu Arg Leu Ile Ile Leu Leu Arg Ile Phe His Leu
 195 200 205
 Phe His Gln Lys Arg Gln Leu Glu Lys Leu Ile Arg Arg Arg Val Ser
 210 215 220
 Glu Asn Lys Arg Arg Tyr Thr Arg Asp Gly Phe Asp Leu Asp Leu Thr
 225 230 235 240
 Tyr Val Thr Glu Arg Ile Ile Ala Met Ser Phe Pro Ser Ser Gly Arg
 245 250 255
 Gln Ser Phe Tyr Arg Asn Pro Ile Lys Glu Val Val Arg Phe Leu Asp
 260 265 270
 Lys Lys His Arg Asn His Tyr Arg Val Tyr Asn Leu Cys Ser Glu Arg
 275 280 285
 Ala Tyr Asp Pro Lys His Phe His Asn Arg Val Val Arg Ile Met Ile
 290 295 300
 Asp Asp His Asn Val Pro Thr Leu His Gln Met Val Val Phe Thr Lys
 305 310 315 320
 Glu Val Asn Glu Trp Met Ala Gln Asp Leu Glu Asn Ile Val Ala Ile
 325 330 335
 His Cys Lys Gly Gly Thr Asp Arg Thr Gly Thr Met Val Cys Ala Phe
 340 345 350
 Leu Ile Ala Ser Glu Ile Cys Ser Thr Ala Lys Glu Ser Leu Tyr Tyr
 355 360 365
 Phe Gly Glu Arg Arg Thr Asp Lys Thr His Ser Glu Lys Phe Gln Gly
 370 375 380
 Val Glu Thr Pro Ser Gln Lys Arg Tyr Val Ala Tyr Phe Ala Gln Val
 385 390 395 400
 Lys His Leu Tyr Asn Trp Asn Leu Pro Pro Arg Arg Ile Leu Phe Ile
 405 410 415
 Lys His Phe Ile Ile Tyr Ser Ile Pro Arg Tyr Val Arg Asp Leu Lys
 420 425 430
 Ile Gln Ile Glu Met Glu Lys Lys Val Val Phe Ser Thr Ile Ser Leu
 435 440 445

342-3PCT.ST25.txt

Gly Lys Cys Ser Val Leu Asp Asn Ile Thr Thr Asp Lys Ile Leu Ile
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Asp Val Phe Asp Gly Pro Pro Leu Tyr Asp Asp Val Lys Val Gln Phe
465 470 475 480

Phe Tyr Ser Asn Leu Pro Thr Tyr Tyr Asp Asn Cys Ser Phe Tyr Phe
485 490 495

Trp Leu His Thr Ser Phe Ile Glu Asn Asn Arg Leu Tyr Leu Pro Lys
500 505 510

Asn Glu Leu Asp Asn Leu His Lys Gln Lys Ala Arg Arg Ile Tyr Pro
515 520 525

Ser Asp Phe Ala Val Glu Ile Leu Phe Gly Glu Lys Met Thr Ser Ser
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Asp Val Val Ala Gly Ser Asp
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<211> 533

<212> PRT

<213> Homo sapiens

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Glu Glu Ala Pro Ala Lys Glu Ser Val Leu Ala Arg Leu Ser Lys Phe
35 40 45

Glu Val Glu Asp Ala Glu Asn Val Ala Ser Tyr Asp Ser Lys Ile Lys
50 55 60

Lys Ile Val His Ser Ile Val Ser Ser Phe Ala Phe Gly Leu Phe Gly
65 70 75 80

Val Phe Leu Val Leu Leu Asp Val Thr Leu Ile Leu Ala Asp Leu Ile
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Phe Thr Asp Ser Lys Leu Tyr Ile Pro Leu Glu Tyr Arg Ser Ile Ser
100 105 110

342-3PCT.ST25.txt

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 130 135 140
 Thr Ala Ile Ile Val Ile Leu Leu Leu Val Asp Val Val Tyr Ile Phe
 145 150 155 160
 Phe Asp Ile Lys Leu Leu Arg Asn Ile Pro Arg Trp Thr His Leu Leu
 165 170 175
 Arg Leu Leu Arg Leu Ile Ile Leu Leu Arg Ile Phe His Leu Phe His
 180 185 190
 Gln Lys Arg Gln Leu Glu Lys Leu Ile Arg Arg Arg Val Ser Glu Asn
 195 200 205
 Lys Arg Arg Tyr Thr Arg Asp Gly Phe Asp Leu Asp Leu Thr Tyr Val
 210 215 220
 Thr Glu Arg Ile Ile Ala Met Ser Phe Pro Ser Ser Gly Arg Gln Ser
 225 230 235 240
 Phe Tyr Arg Asn Pro Ile Lys Glu Val Val Arg Phe Leu Asp Lys Lys
 245 250 255
 His Arg Asn His Tyr Arg Val Tyr Asn Leu Cys Ser Glu Arg Ala Tyr
 260 265 270
 Asp Pro Lys His Phe His Asn Arg Val Val Arg Ile Met Ile Asp Asp
 275 280 285
 His Asn Val Pro Thr Leu His Gln Met Val Val Phe Thr Lys Glu Val
 290 295 300
 Asn Glu Trp Met Ala Gln Asp Leu Glu Asn Ile Val Ala Ile His Cys
 305 310 315 320
 Lys Gly Gly Thr Asp Arg Thr Gly Thr Met Val Cys Ala Phe Leu Ile
 325 330 335
 Ala Ser Glu Ile Cys Ser Thr Ala Lys Glu Ser Leu Tyr Tyr Phe Gly
 340 345 350
 Glu Arg Arg Thr Asp Lys Thr His Ser Glu Lys Phe Gln Gly Val Glu
 355 360 365
 Thr Pro Ser Gln Lys Arg Tyr Val Ala Tyr Phe Ala Gln Val Lys His

370

375

Leu Tyr Asn Trp Asn Leu Pro Pro Arg Arg Ile Leu Phe Ile Lys His
385 390 395 400

Phe Ile Ile Tyr Ser Ile Pro Arg Tyr Val Arg Asp Leu Lys Ile Gln
405 410 415

Ile Glu Met Glu Lys Lys Val Val Phe Ser Thr Ile Ser Leu Gly Lys
420 425 430

Cys Ser Val Leu Asp Asn Ile Thr Thr Asp Lys Ile Leu Ile Asp Val
435 440 445

Phe Asp Gly Pro Pro Leu Tyr Asp Asp Val Lys Val Gln Phe Phe Tyr
450 455 460

Ser Asn Leu Pro Thr Tyr Tyr Asp Asn Cys Ser Phe Tyr Phe Trp Leu
465 470 475 480

His Thr Ser Phe Ile Glu Asn Asn Arg Leu Tyr Leu Pro Lys Asn Glu
485 490 495

Leu Asp Asn Leu His Lys Gln Lys Ala Arg Arg Ile Tyr Pro Ser Asp
500 505 510

Phe Ala Val Glu Ile Leu Phe Gly Glu Lys Met Thr Ser Ser Asp Val
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Val Ala Gly Ser Asp
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<210> 24

<211> 569

<212> PRT

<213> Homo sapiens

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20 25 30

Glu Glu Ala Pro Ala Lys Glu Ser Pro His Thr Ser Glu Phe Lys Gly
35 40 45

342-3PCT.ST25.txt

Ala Ala Arg Val Ser Pro Ile Ser Glu Ser Val Leu Ala Arg Leu Ser
 50 55 60
 Lys Phe Glu Val Glu Asp Ala Glu Asn Val Ala Ser Tyr Asp Ser Lys
 65 70 75 80
 Ile Lys Lys Ile Val His Ser Ile Val Ser Ser Phe Ala Phe Gly Leu
 85 90 95
 Phe Gly Val Phe Leu Val Leu Leu Asp Val Thr Leu Ile Leu Ala Asp
 100 105 110
 Leu Ile Phe Thr Asp Ser Lys Leu Tyr Ile Pro Leu Glu Tyr Arg Ser
 115 120 125
 Ile Ser Leu Ala Ile Ala Leu Phe Phe Leu Met Asp Val Leu Leu Arg
 130 135 140
 Val Phe Val Glu Arg Arg Gln Gln Tyr Phe Ser Asp Leu Phe Asn Ile
 145 150 155 160
 Leu Asp Thr Ala Ile Ile Val Ile Leu Leu Val Asp Val Val Tyr
 165 170 175
 Ile Phe Phe Asp Ile Lys Leu Leu Arg Asn Ile Pro Arg Trp Thr His
 180 185 190
 Leu Leu Arg Leu Leu Arg Leu Ile Ile Leu Leu Arg Ile Phe His Leu
 195 200 205
 Phe His Gln Lys Arg Gln Leu Glu Lys Leu Ile Arg Arg Arg Val Ser
 210 215 220
 Glu Asn Lys Arg Arg Tyr Thr Arg Asp Gly Phe Asp Leu Asp Leu Thr
 225 230 235 240
 Tyr Val Thr Glu Arg Ile Ile Ala Met Ser Phe Pro Ser Ser Gly Arg
 245 250 255
 Gln Ser Phe Tyr Arg Asn Pro Ile Lys Glu Val Val Arg Phe Leu Asp
 260 265 270
 Lys Lys His Arg Asn His Tyr Arg Val Tyr Asn Leu Cys Ser Met Tyr
 275 280 285
 Ile Thr Leu Tyr Cys Ala Thr Val Asp Arg Lys Gln Ile Thr Ala Arg
 290 295 300
 Glu Arg Ala Tyr Asp Pro Lys His Phe His Asn Arg Val Val Arg Ile
 305 310 315 320

342-3PCT.ST25.txt

Met Ile Asp Asp His Asn Val Pro Thr Leu His Gln Met Val Val Phe
325 330

Thr Lys Glu Val Asn Glu Trp Met Ala Gln Asp Leu Glu Asn Ile Val
340 345 350

Ala Ile His Cys Lys Gly Gly Thr Asp Arg Thr Gly Thr Met Val Cys
355 360 365

Ala Phe Leu Ile Ala Ser Glu Ile Cys Ser Thr Ala Lys Glu Ser Leu
370 375 380

Tyr Tyr Phe Gly Glu Arg Arg Thr Asp Lys Thr His Ser Glu Lys Phe
385 390 395 400

Gln Gly Val Glu Thr Pro Ser Gln Lys Arg Tyr Val Ala Tyr Phe Ala
405 410 415

Gln Val Lys His Leu Tyr Asn Trp Asn Leu Pro Pro Arg Arg Ile Leu
420 425 430

Phe Ile Lys His Phe Ile Ile Tyr Ser Ile Pro Arg Tyr Val Arg Asp
435 440 445

Leu Lys Ile Gln Ile Glu Met Glu Lys Lys Val Val Phe Ser Thr Ile
450 455 460

Ser Leu Gly Lys Cys Ser Val Leu Asp Asn Ile Thr Thr Asp Lys Ile
465 470 475 480

Leu Ile Asp Val Phe Asp Gly Pro Pro Leu Tyr Asp Asp Val Lys Val
485 490 495

Gln Phe Phe Tyr Ser Asn Leu Pro Thr Tyr Tyr Asp Asn Cys Ser Phe
500 505 510

Tyr Phe Trp Leu His Thr Ser Phe Ile Glu Asn Asn Arg Leu Tyr Leu
515 520 525

Pro Lys Asn Glu Leu Asp Asn Leu His Lys Gln Lys Ala Arg Arg Ile
530 535 540

Tyr Pro Ser Asp Phe Ala Val Glu Ile Leu Phe Gly Glu Lys Met Thr
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Ser Ser Asp Val Val Ala Gly Ser Asp
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<210> 26
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of artificial sequence: oligonucleotide

<400> 26
caacatctga gacaccattc c 21

<210> 27
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of artificial sequence: oligonucleotide

<400> 27
tggatgtcac tctcatcctt g 21

<210> 28
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of artificial sequence: oligonucleotide

<400> 28
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<210> 29

<211> 2192

<212> DNA

<213> Homo sapiens

<400> 29

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342-3PCT.ST25.txt

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gctcgaaaag gcgaaggcaa atacaggaag gaagtacaac aaaaaagtgg aagagtaagg 1920
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gaagtaaaac attttaatta aagaaaaaaa aa 2192

<210> 30

<211> 568

<212> PRT

<213> Homo sapiens

<400> 30

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Ser Glu Met Tyr Ile Ser Arg Tyr Ser Ser Glu Gln Ser Ala Arg Leu
35 40 45

Leu Asp Tyr Glu Asp Gly Arg Gly Ser Arg His Ala Tyr Gln His Lys
50 55 60

Val Thr Leu His Met Ile Thr Glu Arg Asp Pro Lys Arg Asp Tyr Thr
65 70 75 80

Pro Ser Thr Asn Ser Leu Ala Leu Ser Arg Ser Ser Ile Ala Leu Pro
85 90 95

Gln Gly Ser Met Ser Ser Ile Lys Cys Leu Gln Thr Thr Glu Glu Pro
100 105 110

Pro Ser Arg Thr Ala Gly Ala Met Met Gln Phe Thr Ala Leu Phe Pro
115 120 125

Glu Leu Gln Asp Leu Ser Ser Ser Leu Lys Lys Pro Leu Cys Lys Leu
130 135 140

Gln Asp Leu Leu Tyr Asn Ile Trp Ile Gln Cys Gln Ile Ala Ser His
Page 25

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150

160

Thr Ile Thr Gly His₁₆₅ Leu Gln His Pro Arg₁₇₀ Ser Pro Met Ala Pro₁₇₅ Ile

Ile Ile Ser Gln₁₈₀ Arg Thr Ala Ser Gln₁₈₅ Leu Ala Ala Pro Ile₁₉₀ Arg Ile

Pro Gln Val₁₉₅ His Thr Met Asp Ser₂₀₀ Ser Gly Lys Ile Thr₂₀₅ Leu Thr Pro

Val Val₂₁₀ Ile Leu Thr Gly Tyr₂₁₅ Met Asp Glu Glu Leu₂₂₀ Arg Lys Lys Ser

Cys Ser Lys Ile Gln Ile₂₃₀ Leu Lys Cys Gly₂₃₅ Thr Ala Arg Ser Gln₂₄₀

Ile Ala Glu Lys Lys₂₄₅ Thr Arg Lys Gln Leu₂₅₀ Lys Asn Asp Ile Ile₂₅₅ Phe

Thr Asn Ser Val₂₆₀ Glu Ser Leu Lys Ser₂₆₅ Ala His Ile Lys Glu₂₇₀ Pro Glu

Arg Glu Gly₂₇₅ Lys Gly Thr Asp Leu₂₈₀ Glu Lys Asp Lys Ile₂₈₅ Gly Met Glu

Val Lys₂₉₀ Val Asp Ser Asp Ala₂₉₅ Gly Ile Pro Lys Arg₃₀₀ Gln Glu Thr Gln

Leu Lys Ile Ser Glu Asp₃₁₀ Glu Tyr Thr Thr Arg₃₁₅ Thr Gly Ser Pro Asn₃₂₀

Lys Glu Lys Cys Val₃₂₅ Arg Cys Thr Lys Arg₃₃₀ Thr Gly Val Gln Val₃₃₅ Lys

Lys Ser Glu Ser₃₄₀ Gly Val Pro Lys Gly₃₄₅ Gln Glu Ala Gln Val₃₅₀ Thr Lys

Ser Gly Leu₃₅₅ Val Val Leu Lys Gly₃₆₀ Gln Glu Ala Gln Val₃₆₅ Glu Lys Ser

Glu Met₃₇₀ Gly Val Pro Arg Arg₃₇₅ Gln Glu Ser Gln Val₃₈₀ Lys Lys Ser Gln

Ser Gly Val Ser Lys Gly₃₉₀ Gln Glu Ala Gln Val₃₉₅ Lys Lys Arg Glu Ser₄₀₀

Val Val Leu Lys Gly₄₀₅ Gln Glu Ala Gln Val₄₁₀ Glu Lys Ser Glu Leu₄₁₅ Lys

342-3PCT.ST25.txt

Val Pro Lys Gly Gln Glu Gly Gln Val Glu Lys Thr Glu Ala Asp Val
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Pro Lys Glu Gln Glu Val Gln Glu Lys Lys Ser Glu Ala Gly Val Leu
435 440 445

Lys Gly Pro Glu Ser Gln Val Lys Asn Thr Glu Val Ser Val Pro Glu
450 455 460

Thr Leu Glu Ser Gln Val Lys Lys Ser Glu Ser Gly Val Leu Lys Gly
465 470 475 480

Gln Glu Ala Gln Glu Lys Lys Glu Ser Phe Glu Asp Lys Gly Asn Asn
485 490 495

Asp Lys Glu Lys Glu Arg Asp Ala Glu Lys Asp Pro Asn Lys Lys Glu
500 505 510

Lys Gly Asp Lys Asn Thr Lys Gly Asp Lys Gly Lys Asp Lys Val Lys
515 520 525

Gly Lys Arg Glu Ser Glu Ile Asn Gly Glu Lys Ser Lys Gly Ser Lys
530 535 540

Arg Arg Arg Gln Ile Gln Glu Gly Ser Thr Thr Lys Lys Trp Lys Ser
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Lys Asp Lys Phe Phe Lys Gly Pro
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<210> 31

<211> 1686

<212> DNA

<213> Homo sapiens

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342-3PCT.ST25.txt

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<211> 1710

<212> DNA

<213> Homo sapiens

<400> 32

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<211> 1665

<212> DNA

<213> Homo sapiens

<400> 33

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342-3PCT.ST25.txt

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<210> 34

<211> 561

<212> PRT

<213> Homo sapiens

<400> 34

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20          25          30

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Ser Glu Met Tyr Ile Ser Arg Tyr Ser Ser Glu Gln Ser Ala Arg Leu
 35 40 45

Leu Asp Tyr Glu Asp Gly Arg Gly Ser Arg His Ala Tyr Ser Thr Gln
 50 55 60

Ser Asp Thr Ser Tyr Asp Asn Arg Glu Arg Ser Lys Arg Asp Tyr Thr
 65 70 75 80

Pro Ser Thr Asn Ser Leu Ala Leu Ser Arg Ser Ser Ile Ala Leu Pro
 85 90 95

Gln Gly Ser Met Ser Ser Ile Lys Cys Leu Gln Thr Thr Glu Glu Pro
 100 105 110

Pro Ser Arg Thr Ala Gly Ala Met Met Gln Phe Thr Ala Pro Ile Pro
 115 120 125

Gly Ala Thr Gly Pro Ile Lys Leu Ser Gln Lys Thr Ile Val Gln Thr
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Pro Gly Pro Ile Val Gln Tyr Pro Gly Ser Asn Ala Gly Pro Pro Ser
 145 150 155 160

Ala Pro Arg Gly Pro Pro Met Ala Pro Ile Ile Ile Ser Gln Arg Thr
 165 170 175

Ala Ser Gln Leu Ala Ala Pro Ile Ile Ile Ser Gln Arg Thr Ala Arg
 180 185 190

Ile Pro Gln Val His Thr Met Asp Ser Ser Gly Lys Ile Thr Leu Thr
 195 200 205

Pro Val Val Ile Leu Thr Gly Tyr Met Asp Glu Glu Leu Ala Lys Lys
 210 215 220

Ser Cys Ser Lys Ile Gln Ile Leu Lys Cys Gly Gly Thr Ala Arg Ser
 225 230 235 240

Gln Asn Ser Arg Glu Glu Asn Lys Glu Ala Leu Lys Asn Asp Ile Ile
 245 250 255

Phe Thr Asn Ser Val Glu Ser Leu Lys Ser Ala His Ile Lys Glu Pro
 260 265 270

Glu Arg Glu Gly Lys Gly Thr Asp Leu Glu Lys Asp Lys Ile Gly Met
 275 280 285

Glu Val Lys Val Asp Ser Asp Ala Gly Ile Pro Lys Arg Gln Glu Thr
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325 330 335

Lys Lys Ser Glu Ser Gly Val Pro Lys Gly Gln Glu Ala Gln Val Thr
340 345 350

Lys Ser Gly Leu Val Val Leu Lys Gly Gln Glu Ala Gln Val Glu Lys
355 360 365

Ser Glu Met Gly Val Pro Arg Arg Gln Glu Ser Gln Val Lys Lys Ser
370 375 380

Gln Ser Gly Val Ser Lys Gly Gln Glu Ala Gln Val Lys Lys Arg Glu
385 390 395 400

Ser Val Val Leu Lys Gly Gln Glu Ala Gln Val Glu Lys Ser Glu Leu
405 410 415

Lys Val Pro Lys Gly Gln Glu Gly Gln Val Glu Lys Thr Glu Ala Asp
420 425 430

Val Pro Lys Glu Gln Glu Val Gln Glu Lys Lys Ser Glu Ala Gly Val
435 440 445

Leu Lys Gly Pro Glu Ser Gln Val Lys Asn Thr Glu Val Ser Val Pro
450 455 460

Glu Thr Leu Glu Ser Gln Val Lys Lys Ser Glu Ser Gly Val Leu Lys
465 470 475 480

Gly Gln Glu Ala Gln Glu Lys Lys Glu Ser Phe Glu Asp Lys Gly Asn
485 490 495

Asn Asp Lys Glu Lys Glu Arg Asp Ala Glu Lys Asp Pro Asn Lys Lys
500 505 510

Glu Lys Gly Asp Lys Asn Thr Lys Gly Asp Lys Gly Lys Asp Lys Val
515 520 525

Lys Gly Lys Arg Glu Ser Glu Ile Asn Gly Glu Lys Ser Lys Gly Ser
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Lys Arg Ala Lys Ala Asn Thr Gly Arg Lys Tyr Asn Lys Lys Val Glu
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<210> 35

<211> 569

<212> PRT

<213> Homo sapiens

<400> 35

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Ser Glu Met His Ile Ser Arg Tyr Ser Ser Glu Gln Ser Ala Arg Leu
 35 40 45

Leu Asp Tyr Glu Asp Gly Arg Gly Ser Arg His Ala Tyr Ser Thr Gln
 50 55 60

Ser Asp Thr Ser Cys Asp Asn Arg Glu Arg Ser Lys Arg Asp Tyr Thr
 65 70 75 80

Pro Ser Thr Asn Ser Leu Ala Leu Ser Arg Ser Ser Ile Ala Leu Pro
 85 90 95

Gln Gly Ser Met Ser Ser Ile Lys Cys Leu Gln Thr Thr Glu Glu Leu
 100 105 110

Pro Ser Arg Thr Ala Gly Ala Met Met Gln Phe Thr Ala Pro Ile Pro
 115 120 125

Gly Ala Thr Gly Pro Ile Lys Leu Ser Gln Lys Thr Ile Val Gln Thr
 130 135 140

Pro Gly Pro Ile Val Gln Tyr Pro Gly Pro Asn Val Arg Ser His Pro
 145 150 155 160

His Thr Ile Thr Gly Pro Pro Ser Ala Pro Arg Gly Pro Pro Met Ala
 165 170 175

Pro Ile Ile Ile Ser Gln Arg Thr Ala Ser Gln Leu Ala Ala Pro Ile
 180 185 190

Ile Ile Ser Gln Arg Thr Ala Arg Ile Pro Gln Val His Thr Met Asp
 195 200 205

Ser Ser Gly Lys Thr Thr Leu Thr Pro Val Val Ile Leu Thr Gly Tyr
 Page 33

210

215

Met Asp Glu Glu Leu Ala Lys Lys Ser Cys Ser Lys Ile Gln Ile Leu
225 230 235 240

Lys Cys Gly Gly Thr Ala Arg Ser Gln Asn Ser Arg Glu Glu Asn Lys
245 250 255

Glu Ala Leu Lys Asn Asp Ile Ile Phe Thr Asn Ser Val Glu Ser Leu
260 265 270

Lys Ser Ala His Ile Lys Glu Pro Glu Arg Glu Gly Lys Gly Thr Asp
275 280 285

Leu Glu Lys Asp Lys Ile Gly Met Glu Val Lys Val Asp Ser Asp Ala
290 295 300

Gly Ile Pro Lys Arg Gln Glu Thr Gln Leu Lys Ile Ser Glu Met Ser
305 310 315 320

Ile Pro Gln Gly Gln Gly Ala Gln Ile Lys Lys Ser Val Ser Asp Val
325 330 335

Pro Arg Gly Gln Glu Ser Gln Val Lys Lys Ser Glu Ser Gly Val Pro
340 345 350

Lys Gly Gln Glu Ala Gln Val Thr Lys Ser Gly Leu Val Val Leu Lys
355 360 365

Gly Gln Glu Ala Gln Val Glu Lys Ser Glu Met Gly Val Pro Arg Arg
370 375 380

Gln Glu Ser Gln Val Lys Lys Ser Gln Ser Gly Val Ser Lys Gly Gln
385 390 395 400

Glu Ala Gln Val Lys Lys Arg Glu Ser Val Val Leu Lys Gly Gln Glu
405 410 415

Ala Gln Val Glu Lys Ser Glu Leu Lys Val Pro Lys Gly Gln Glu Gly
420 425 430

Gln Val Glu Lys Thr Glu Ala Asp Val Pro Lys Glu Gln Glu Val Gln
435 440 445

Glu Lys Lys Ser Glu Ala Gly Val Leu Lys Gly Pro Glu Ser Gln Val
450 455 460

Lys Asn Thr Glu Val Ser Val Pro Glu Thr Leu Glu Ser Gln Val Lys
465 470 475 480

342-3PCT.ST25.txt

Lys Ser Glu Ser Gly Val Leu Lys Gly Gln Glu Ala Gln Glu Lys Lys
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Glu Ser Phe Glu Asp Lys Gly Asn Asn Asp Lys Glu Lys Glu Arg Asp
500 505 510

Ala Glu Lys Asp Pro Asn Lys Lys Glu Lys Gly Asp Lys Asn Thr Lys
515 520 525

Gly Asp Lys Gly Lys Asp Lys Val Lys Gly Lys Arg Glu Ser Glu Ile
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Asn Gly Glu Lys Ser Lys Gly Ser Lys Arg Ala Lys Ala Asn Thr Gly
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Arg Lys Tyr Asn Lys Lys Val Glu Glu
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<210> 36

<211> 554

<212> PRT

<213> Homo sapiens

<400> 36

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Ser Glu Met Tyr Ile Ser Arg Tyr Ser Ser Glu Gln Ser Ala Arg Leu
35 40 45

Leu Asp Tyr Glu Asp Gly Arg Gly Ser Arg His Ala Tyr Ser Thr Gln
50 55 60

Ser Glu Arg Ser Lys Arg Asp Tyr Thr Pro Ser Thr Asn Ser Leu Ala
65 70 75 80

Leu Ser Arg Ser Ser Ile Ala Leu Pro Gln Gly Ser Met Ser Ser Ile
85 90 95

Lys Cys Leu Gln Thr Thr Glu Glu Pro Pro Ser Arg Thr Ala Gly Ala
100 105 110

Met Met Gln Phe Thr Ala Pro Ile Pro Gly Ala Thr Gly Pro Ile Lys
115 120 125

342-3PCT.ST25.txt

Leu Ser Gln Lys Thr Ile Val Gln Thr Pro Gly Pro Ile Val Gln Tyr
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 Pro Gly Ser Asn Ala Gly Pro Pro Ser Ala Pro Arg Gly Pro Pro Met
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 Ala Pro Ile Ile Ile Ser Gln Arg Thr Ala Ser Gln Leu Ala Ala Pro
 165 170 175
 Ile Ile Ile Ser Gln Arg Thr Ala Arg Ile Pro Gln Val His Thr Met
 180 185 190
 Asp Ser Ser Gly Lys Ile Thr Leu Thr Pro Val Val Ile Leu Thr Gly
 195 200 205
 Tyr Met Asp Glu Glu Leu Ala Lys Lys Ser Cys Ser Lys Ile Gln Ile
 210 215 220
 Leu Lys Cys Gly Gly Thr Ala Arg Ser Gln Asn Ser Arg Glu Glu Asn
 225 230 235 240
 Lys Glu Ala Leu Lys Asn Asp Ile Ile Phe Thr Asn Ser Val Glu Ser
 245 250 255
 Leu Lys Ser Ala His Ile Lys Glu Pro Glu Arg Glu Gly Lys Gly Thr
 260 265 270
 Asp Leu Glu Lys Asp Lys Ile Gly Met Glu Val Lys Val Asp Ser Asp
 275 280 285
 Ala Gly Ile Pro Lys Arg Gln Glu Thr Gln Leu Lys Ile Ser Glu Met
 290 295 300
 Ser Ile Pro Gln Gly Gln Gly Ala Gln Ile Lys Lys Ser Val Ser Asp
 305 310 315 320
 Val Pro Arg Gly Gln Glu Ser Gln Val Lys Lys Ser Glu Ser Gly Val
 325 330 335
 Pro Lys Gly Gln Glu Ala Gln Val Thr Lys Ser Gly Leu Val Val Leu
 340 345 350
 Lys Gly Gln Glu Ala Gln Val Glu Lys Ser Glu Met Gly Val Pro Arg
 355 360 365
 Arg Gln Glu Ser Gln Val Lys Lys Ser Gln Ser Gly Val Ser Lys Gly
 370 375 380
 Gln Glu Ala Gln Val Lys Lys Arg Glu Ser Val Val Leu Lys Gly Gln
 385 390 395 400

Glu Ala Gln Val Glu Lys Ser Glu Leu Lys Val Pro Lys Gly Gln Glu
405 410 415

Gly Gln Val Glu Lys Thr Glu Ala Asp Val Pro Lys Glu Gln Glu Val
420 425 430

Gln Glu Lys Lys Ser Glu Ala Gly Val Leu Lys Gly Pro Glu Ser Gln
435 440 445

Val Lys Asn Thr Glu Val Ser Val Pro Glu Thr Leu Glu Ser Gln Val
450 455 460

Lys Lys Ser Glu Ser Gly Val Leu Lys Gly Gln Glu Ala Gln Glu Lys
465 470 475 480

Lys Glu Ser Phe Glu Asp Lys Gly Asn Asn Asp Lys Glu Lys Glu Arg
485 490 495

Asp Ala Glu Lys Asp Pro Asn Lys Lys Glu Lys Gly Asp Lys Asn Thr
500 505 510

Lys Gly Asp Lys Gly Lys Asp Lys Val Lys Gly Lys Arg Glu Ser Glu
515 520 525

Ile Asn Gly Glu Lys Ser Lys Gly Ser Lys Arg Ala Lys Ala Asn Thr
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Gly Arg Lys Tyr Asn Lys Lys Val Glu Glu
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<210> 37

<211> 1182

<212> DNA

<213> Homo sapiens

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<210> 38

<211> 267

<212> PRT

<213> Homo sapiens

<400> 38

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35      40      45
Ala Gln Pro Tyr Gly Ile Thr Ser Pro Gly Ile Phe Ala Ser Ser Gln
50      55      60
Pro Gly Gln Gly Asn Ile Gln Met Ile Asn Pro Ser Val Gly Thr Ala
65      70      75      80
Val Met Asn Phe Lys Glu Glu Ala Lys Ala Leu Gly Val Ile Gln Ile
85      90      95
Met Val Gly Leu Met His Ile Gly Phe Gly Ile Val Leu Cys Leu Ile
100     105     110

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Ser Phe Ser Phe Arg Glu Val Leu Gly Phe Ala Ser Thr Ala Val Ile
 115 120 125

Gly Gly Tyr Pro Phe Trp Gly Gly Leu Ser Phe Ile Ile Ser Gly Ser
 130 135 140

Leu Ser Val Ser Ala Ser Lys Glu Leu Ser Arg Cys Leu Val Lys Gly
 145 150 155 160

Ser Leu Gly Met Asn Ile Val Ser Ser Ile Leu Ala Phe Ile Gly Val
 165 170 175

Ile Leu Leu Leu Val Asp Met Cys Ile Asn Gly Val Ala Gly Gln Asp
 180 185 190

Tyr Trp Ala Val Leu Ser Gly Lys Gly Ile Ser Ala Thr Leu Met Ile
 195 200 205

Phe Ser Leu Leu Glu Phe Phe Val Ala Cys Ala Thr Ala His Phe Ala
 210 215 220

Asn Gln Ala Asn Thr Thr Thr Asn Met Ser Val Leu Val Ile Pro Asn
 225 230 235 240

Met Tyr Glu Ser Asn Pro Val Thr Pro Ala Ser Ser Ser Ala Pro Pro
 245 250 255

Arg Cys Asn Asn Tyr Ser Ala Asn Ala Pro Lys
 260 265

<210> 39

<211> 1948

<212> DNA

<213> Homo sapiens

<400> 39

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agcattttga	aaatgccatt	ccactgtttt	ctggccttta	tgatttctgc	tgagaaatcc	1860
actgttagtc	tgatggggtc	tccttcatag	caccaatgac	ctgaagagcc	ttgttgaagg	1920
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<210> 40

<211> 1406

<212> DNA

<213> Homo sapiens

<400> 40

cggtgagagg	ggcgcgagc	agcagctcct	caacgccgca	acgcgccggc	ccaactgcag	60
gaaggtctgt	gctctggagc	cagggtaa	ggttataaaa	ttatacacca	tgccctcct	120
aaagacactc	taggaaaacc	atgtcatcct	gatcttaaaa	cacctgcaag	aaagagcaca	180

342-3PCT.ST25.txt

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gtacttcacc attaataaag tagatatttc atcctgctca gaaaaccaac atttccagca 240
atggcttttac taccggtggt gtttctggtt actgtgctgc ttccatcttt acctgcagaa 300
ggaaaggatc ccgcttttac tgctttgtta accacccagt tgcaagtgca aaggagatt 360
gtaaataaac acaatgaact aaggaaagca gtctctccac ctgccagtaa catgctaaag 420
atggaatgga gcagagaggt aacaacgaat gccc aaagggt gggcaaaca gtgcacttta 480
caacatagtg atccagagga ccgcaaacc agtacaagat gtggtgagaa tctctatatg 540
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gtttggtact cgacttacca ggtaggctgt ggaattgcct actgtcccaa tcaagatagt 720
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ttggatcaaa atggtgcatt acgtatttcc tgaaacatgc taaagaagaa gactgtaaca 1320
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atctgcaaaa aaaaaaaaaa aaaaaa 1406

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<210> 41

<211> 243

<212> PRT

<213> Homo sapiens

<400> 41

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Met Ala Leu Leu Pro Val Leu Phe Leu Val Thr Val Leu Leu Pro Ser
1           5           10          15

```

```

Leu Pro Ala Glu Gly Lys Asp Pro Ala Phe Thr Ala Leu Leu Thr Thr
20          25          30

```

```

Gln Leu Gln Val Gln Arg Glu Ile Val Asn Lys His Asn Glu Leu Arg
35          40          45

```

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Lys Ala Val Ser Pro Pro Ala Ser Asn Met Leu Lys Met Glu Trp Ser
50 55 60

Arg Glu Val Thr Thr Asn Ala Gln Arg Trp Ala Asn Lys Cys Thr Leu
65 70 75 80

Gln His Ser Asp Pro Glu Asp Arg Lys Thr Ser Thr Arg Cys Gly Glu
85 90 95

Asn Leu Tyr Met Ser Ser Asp Pro Thr Ser Trp Ser Ser Ala Ile Gln
100 105 110

Ser Trp Tyr Asp Glu Ile Leu Asp Phe Val Tyr Gly Val Gly Pro Lys
115 120 125

Ser Pro Asn Ala Val Val Gly His Tyr Thr Gln Leu Val Trp Tyr Ser
130 135 140

Thr Tyr Gln Val Gly Cys Gly Ile Ala Tyr Cys Pro Asn Gln Asp Ser
145 150 155 160

Leu Lys Tyr Tyr Tyr Val Cys Gln Tyr Cys Pro Ala Gly Asn Asn Met
165 170 175

Asn Arg Lys Asn Thr Pro Tyr Gln Gln Gly Thr Pro Cys Ala Gly Cys
180 185 190

Pro Asp Asp Cys Asp Lys Gly Leu Cys Thr Asn Ser Cys Gln Tyr Gln
195 200 205

Asp Leu Leu Ser Asn Cys Asp Ser Leu Lys Asn Thr Ala Gly Cys Glu
210 215 220

His Glu Leu Leu Lys Glu Lys Cys Lys Ala Thr Cys Leu Cys Glu Asn
225 230 235 240

Lys Ile Tyr

<210> 42

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of the artificial sequence: oligonucleotide

<400> 42

tctagcactg tctcgatcaa g 21

<210> 43

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of the artificial sequence: Oligonucleotide

<400> 43

tgtcctcttg gtacatctga c 21

<210> 44

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of the artificial sequence: Oligonucleotide

<400> 44

ctgtgtcagc atccaaggag c 21

<210> 45

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of the artificial sequence: Oligonucleotide

<400> 45

ttcacctttg ccagcatgta g 21

<210> 46

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of the artificial sequence: Oligonucleotide

<400> 46
cttgctctga gtcacatgat g 21

<210> 47

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of the artificial sequence: oligonucleotide

<400> 47
cacagaatat gagccataca g 21

<210> 48

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of the artificial sequence: oligonucleotide

<400> 48
ggtgtcactt ctgtgccttc ct 22

<210> 49

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of the artificial sequence: oligonucleotide

<400> 49
cggcaccagt tccaacaata g 21

<210> 50

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of the artificial sequence: oligonucleotide

<400> 50
caaaggttct ccaaattgt 18

<210> 51

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of the artificial sequence: Oligonucleotide

<400> 51
tagcgctca actgtcgttg g 21

<210> 52

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of the artificial sequence: Oligonucleotide

<400> 52
cgtgagcgct tcgagatggt ccg 23

<210> 53

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of the artificial sequence: Oligonucleotide

<400> 53
cctaaccagc tgccaactg tag 23

<210> 54

<211> 1550

<212> DNA

<213> Homo sapiens

<400> 54

342-3PCT.ST25.txt

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gacagtccac agacaagtga atttaaagga gcaaccgagg aggcacctgc gaaagaaagc	120
ccacacacaa gtgaatttaa aggagcagcc cgggtgtcac ctatcagtga aagtgtgtta	180
gcacgacttt ccaagtttga agttgaagat gctgaaaatg ttgcttcata tgacagcaag	240
attaagaaaa ttgtgcattc aattgtatca tcctttgcat ttggactatt tggagttttc	300
ctggtcttac tggatgtcac tctcatcctt gccgacctaa ttttactga cagcaaactt	360
tatattcctt tggagtatcg ttctatttct ctagctattg ccttattttt tctcatggat	420
gttcttcttc gagtatttgt agaaaggaga cagcagtatt tttctgactt atttaacatt	480
ttagatactg ccattattgt gattcttctg ctggttgatg tcggtttacat tttttttgac	540
attaagttgc ttaggaatat tcccagatgg acacatttac ttcgacttct acgacttatt	600
attctgttaa gaatttttca tctgtttcat caaaaaagac aacttgaaaa gctgataaga	660
aggcggttt cagaaaacaa aaggcgatac acaagggatg gatttgacct agacctcact	720
tacgttacag aacgtattat tgctatgtca tttccatctt ctggaaggca gtctttctat	780
agaaatccaa tcaagggaagt tgtgcggttt ctagataaga aacaccgaaa ccactatcga	840
gtctacaatc tatgcagtga aagagcttac gatcctaagc acttccataa tagggtcggt	900
agaatcatga ttgatgatca taatgtcccc actctacatc agatggtggt tttcaccaag	960
gaagtaaagtg agtggatggc tcaagatctt gaaaacatcg tagcgattca ctgtaaagga	1020
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actgcaaagg aaagcctgta ttattttgga gaaaggcgaa cagataaaac ccacagcgaa	1140
aaatttcagg gagtagaaac tccttctcag gttatgtacg tgatctaaaa atccaaatag	1200
aaatggagaa aaaggtgtc ttttccacta tttcattagg aaaatgttcg gtacttgata	1260
acattacaac agacaaaata ttaattgatg tattcgacgg tccacctctg tatgatgatg	1320
tgaaagtgca gtttttctat tcgaatcttc ctacatacta tgacaattgc tcattttact	1380
tctggttgca cacatctttt attgaaaata acaggcttta tctaccaaaa aatgaattgg	1440
ataatctaca taaacaaaaa gcacggagaa tttatccatc agattttgcc gtggagatac	1500
tttttggcga gaaaatgact tccagtgatg ttgtagctgg atccgattaa	1550

<210> 55

<211> 1407

<212> DNA

<213> Homo sapiens

<400> 55

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gacagtccac agacaagtga atttaaagga gcaaccgagg aggcacctgc gaaagaaagc	120

342-3PCT.ST25.txt

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ccacacacaa gtgaatttaa aggagcagcc cgggtgtcac ctatcagtga aagtgtgtta 180
gcacgacttt ccaagtttga agttgaagat gctgaaaatg ttgcttcata tgacagcaag 240
attaagaaaa ttgtgcattc aattgtatca tcctttgcat ttggactatt tggagttttc 300
ctggtcttac tggatgtcac tctcatcctt gccgacctaa ttttactga cagcaaactt 360
tatattcctt tggagtatcg ttctatttct ctagctattg ccttattttt tctcatggat 420
gttcttcttc gagtatttgt agaaaggaga cagcagtatt tttctgactt atttaacatt 480
ttagatactg ccattattgt gattcttctg ctggttgatg tcggtttacat tttttttgac 540
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attctgttaa gaatttttca tctgtttcat caaaaaagac aacttgaaaa gctgataaga 660
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gaaaataaca ggctttatct accaaaaaat gaattggata atctacataa acaaaaagca 1320
cggagaattt atccatcaga ttttgccgtg gagatacttt ttggcgagaa aatgacttcc 1380
agtgatgttg tagctggatc cgattaa 1407

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<210> 56

<211> 1413

<212> DNA

<213> Homo sapiens

<400> 56

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gacagtccac agacaagtga atttaaagga gcaaccgagg aggcacctgc gaaagaaagt 120
gtgttagcac gactttccaa gtttgaagtt gaagatgctg aaaatgttgc ttcatatgac 180
agcaagatta agaaaattgt gcattcaatt gtatcatcct ttgcatttgg actatttggg 240
gttttcctgg tcttactgga tgtcactctc atccttgccg acctaatttt cactgacagc 300

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342-3PCT.ST25.txt

aaactttata	ttcctttgga	gtatcgttct	atttctctag	ctattgcctt	atTTTTtctc	360
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aacatttttag	atactgccat	tattgtgatt	cttctgctgg	ttgatgtcgt	ttacattttt	480
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ataagaaggc	gggtttcaga	aaacaaaagg	cgatacacia	gggatggatt	tgacctagac	660
ctcacttacg	ttacagaacg	tattattgct	atgtcatttc	catcttctgg	aaggcagtct	720
ttctatagaa	atccaatcaa	ggaagttgtg	cggtttctag	ataagaaaca	ccgaaaccac	780
tatcgagtct	acaatctatg	cagtgaagaa	gcttacgata	ctaagcactt	ccataatagg	840
gtcgttagaa	tcatgattga	tgatcataat	gtccccactc	tacatcagat	ggtggTTTTc	900
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aaagcacgga	gaatttatcc	atcagatttt	gccgtggaga	tactTTTTtg	cgagaaaatg	1380
acttccagtg	atgttgtagc	tggtatccgat	taa			1413

<210> 57

<211> 1353

<212> DNA

<213> Homo sapiens

<400> 57

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gacagtccac	agacaagtga	atttaaagga	gcaaccgagg	aggcacctgc	gaaagaaagt	120
gtgttagcac	gactttccaa	gtttgaagtt	gaagatgctg	aaaatgttgc	ttcatatgac	180
agcaagatta	agaaaattgt	gcattcaatt	gtatcatcct	ttgcatttgg	actatttgg	240
gttttcctgg	tcttactgga	tgtcactctc	atccttgccg	acctaatttt	cactgacagc	300
aaactttata	ttcctttgga	gtatcgttct	atttctctag	ctattgcctt	atTTTTtctc	360
atggatgttc	ttcttcgagt	atttgtagaa	aggagacagc	agtatttttc	tgacttattt	420
aacatttttag	atactgccat	tattgtgatt	cttctgctgg	ttgatgtcgt	ttacattttt	480
tttgacatta	agttgcttag	gaatattccc	agatggacac	atttacttcg	acttctacga	540

342-3PCT.ST25.txt

```

cttattattc tgtaagaat ttttcatctg tttcatcaaa aaagacaact tgaaaagctg      600
ataagaaggc gggtttcaga aaacaaaagg cgatacaciaa gggatggatt tgacctagac      660
ctcacttacg ttacagaacg tattattgct atgtcatttc catcttctgg aaggcagtct      720
ttctatagaa atccaatcaa ggaagttgtg cggtttctag ataagaaaca ccgaaaccac      780
tatcgagtct acaatctatg cagtgaaga gcttacgatt ctaagcactt ccataatagg      840
gtcgttagaa tcatgattga tgatcataat gtcccccactc tacatcagat ggtgggttttc      900
accaaggaag taaatgagtg gatggctcaa gatcttgaaa acatcgtagc gattcactgt      960
aaaggaggca caggttatgt acgtgatcta aaaatccaaa tagaaatgga gaaaaagggt      1020
gtctttttcca ctatttcatt aggaaaatgt tcggtacttg ataacattac aacagacaaa      1080
atattaattg atgtattcga cgggccacct ctgtatgatg atgtgaaagt gcagtttttc      1140
tattcgaatc ttcctacata ctatgacaat tgctcatttt acttctgggt gcacacatct      1200
tttattgaaa ataacaggct ttatctacca aaaaatgaat tggataatct acataaacia      1260
aaagcacgga gaatttatcc atcagatttt gccgtggaga tactttttgg cgagaaaatg      1320
acttccagtg atgttgtagc tggatccgat taa                                     1353

```

<210> 58

<211> 395

<212> PRT

<213> Homo sapiens

<400> 58

```

Met Asn Glu Ser Pro Asp Pro Thr Asp Leu Ala Gly Val Ile Ile Glu
1          5          10          15

```

```

Leu Gly Pro Asn Asp Ser Pro Gln Thr Ser Glu Phe Lys Gly Ala Thr
          20          25          30

```

```

Glu Glu Ala Pro Ala Lys Glu Ser Pro His Thr Ser Glu Phe Lys Gly
          35          40          45

```

```

Ala Ala Arg Val Ser Pro Ile Ser Glu Ser Val Leu Ala Arg Leu Ser
          50          55          60

```

```

Lys Phe Glu Val Glu Asp Ala Glu Asn Val Ala Ser Tyr Asp Ser Lys
65          70          75          80

```

```

Ile Lys Lys Ile Val His Ser Ile Val Ser Ser Phe Ala Phe Gly Leu
          85          90          95

```

```

Phe Gly Val Phe Leu Val Leu Leu Asp Val Thr Leu Ile Leu Ala Asp

```

100

105

110

Leu Ile Phe Thr Asp Ser Lys Leu Tyr Ile Pro Leu Glu Tyr Arg Ser
 115 120 125
 Ile Ser Leu Ala Ile Ala Leu Phe Phe Leu Met Asp Val Leu Leu Arg
 130 135 140
 Val Phe Val Glu Arg Arg Gln Gln Tyr Phe Ser Asp Leu Phe Asn Ile
 145 150 155 160
 Leu Asp Thr Ala Ile Ile Val Ile Leu Leu Val Asp Val Val Tyr
 165 170 175
 Ile Phe Phe Asp Ile Lys Leu Leu Arg Asn Ile Pro Arg Trp Thr His
 180 185 190
 Leu Leu Arg Leu Leu Arg Leu Ile Ile Leu Leu Arg Ile Phe His Leu
 195 200 205
 Phe His Gln Lys Arg Gln Leu Glu Lys Leu Ile Arg Arg Arg Val Ser
 210 215 220
 Glu Asn Lys Arg Arg Tyr Thr Arg Asp Gly Phe Asp Leu Asp Leu Thr
 225 230 235 240
 Tyr Val Thr Glu Arg Ile Ile Ala Met Ser Phe Pro Ser Ser Gly Arg
 245 250 255
 Gln Ser Phe Tyr Arg Asn Pro Ile Lys Glu Val Val Arg Phe Leu Asp
 260 265 270
 Lys Lys His Arg Asn His Tyr Arg Val Tyr Asn Leu Cys Ser Glu Arg
 275 280 285
 Ala Tyr Asp Pro Lys His Phe His Asn Arg Val Val Arg Ile Met Ile
 290 295 300
 Asp Asp His Asn Val Pro Thr Leu His Gln Met Val Val Phe Thr Lys
 305 310 315 320
 Glu Val Asn Glu Trp Met Ala Gln Asp Leu Glu Asn Ile Val Ala Ile
 325 330 335
 His Cys Lys Gly Gly Thr Asp Arg Thr Gly Thr Met Val Cys Ala Phe
 340 345 350
 Leu Ile Ala Ser Glu Ile Cys Ser Thr Ala Lys Glu Ser Leu Tyr Tyr
 355 360 365

Phe Gly Glu Arg Arg Thr Asp Lys Thr His Ser Glu Lys Phe Gln Gly
 370 375 380

Val Glu Thr Pro Ser Gln Val Met Tyr Val Ile
 385 390 395

<210> 59

<211> 468

<212> PRT

<213> Homo sapiens

<400> 59

Met Asn Glu Ser Pro Asp Pro Thr Asp Leu Ala Gly Val Ile Ile Glu
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Leu Gly Pro Asn Asp Ser Pro Gln Thr Ser Glu Phe Lys Gly Ala Thr
 20 25 30

Glu Glu Ala Pro Ala Lys Glu Ser Pro His Thr Ser Glu Phe Lys Gly
 35 40 45

Ala Ala Arg Val Ser Pro Ile Ser Glu Ser Val Leu Ala Arg Leu Ser
 50 55 60

Lys Phe Glu Val Glu Asp Ala Glu Asn Val Ala Ser Tyr Asp Ser Lys
 65 70 75 80

Ile Lys Lys Ile Val His Ser Ile Val Ser Ser Phe Ala Phe Gly Leu
 85 90 95

Phe Gly Val Phe Leu Val Leu Leu Asp Val Thr Leu Ile Leu Ala Asp
 100 105 110

Leu Ile Phe Thr Asp Ser Lys Leu Tyr Ile Pro Leu Glu Tyr Arg Ser
 115 120 125

Ile Ser Leu Ala Ile Ala Leu Phe Phe Leu Met Asp Val Leu Leu Arg
 130 135 140

Val Phe Val Glu Arg Arg Gln Gln Tyr Phe Ser Asp Leu Phe Asn Ile
 145 150 155 160

Leu Asp Thr Ala Ile Ile Val Ile Leu Leu Val Asp Val Val Tyr
 165 170 175

Ile Phe Phe Asp Ile Lys Leu Leu Arg Asn Ile Pro Arg Trp Thr His
 180 185 190

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Leu Leu Arg 195 Leu Leu Arg Leu Ile 200 Ile Leu Leu Arg Ile 205 Phe His Leu
 Phe His 210 Gln Lys Arg Gln 215 Glu Lys Leu Ile Arg 220 Arg Arg Val Ser
 Glu 225 Asn Lys Arg Arg Tyr 230 Thr Arg Asp Gly Phe 235 Asp Leu Asp Leu Thr 240
 Tyr Val Thr Glu Arg 245 Ile Ile Ala Met Ser 250 Phe Pro Ser Ser Gly 255 Arg
 Gln Ser Phe Tyr 260 Arg Asn Pro Ile Lys 265 Glu Val Val Arg Phe 270 Leu Asp
 Lys Lys His 275 Arg Asn His Tyr Arg 280 Val Tyr Asn Leu Cys 285 Ser Glu Arg
 Ala Tyr 290 Asp Pro Lys His Phe 295 His Asn Arg Val Val 300 Arg Ile Met Ile
 Asp 305 Asp His Asn Val Pro 310 Thr Leu His Gln Met 315 Val Val Phe Thr Lys 320
 Glu Val Asn Glu Trp 325 Met Ala Gln Asp Leu 330 Glu Asn Ile Val Ala 335 Ile
 His Cys Lys Gly 340 Gly Thr Gly Tyr Val 345 Arg Asp Leu Lys Ile 350 Gln Ile
 Glu Met Glu 355 Lys Lys Val Val Phe 360 Ser Thr Ile Ser Leu 365 Gly Lys Cys
 Ser Val 370 Leu Asp Asn Ile Thr 375 Thr Asp Lys Ile Leu 380 Ile Asp Val Phe
 Asp 385 Gly Pro Pro Leu Tyr 390 Asp Asp Val Lys Val 395 Gln Phe Phe Tyr Ser 400
 Asn Leu Pro Thr Tyr 405 Tyr Asp Asn Cys Ser 410 Phe Tyr Phe Trp Leu 415 His
 Thr Ser Phe Ile 420 Glu Asn Asn Arg Leu 425 Tyr Leu Pro Lys Asn 430 Glu Leu
 Asp Asn Leu 435 His Lys Gln Lys Ala 440 Arg Arg Ile Tyr Pro 445 Ser Asp Phe
 Ala Val 450 Glu Ile Leu Phe Gly 455 Glu Lys Met Thr Ser 460 Ser Asp Val Val

Ala Gly Ser Asp
465

<210> 60

<211> 470

<212> PRT

<213> Homo sapiens

<400> 60

Met Asn Glu Ser Pro Asp Pro Thr Asp Leu Ala Gly Val Ile Ile Glu
1 5 10 15

Leu Gly Pro Asn Asp Ser Pro Gln Thr Ser Glu Phe Lys Gly Ala Thr
20 25 30

Glu Glu Ala Pro Ala Lys Glu Ser Val Leu Ala Arg Leu Ser Lys Phe
35 40 45

Glu Val Glu Asp Ala Glu Asn Val Ala Ser Tyr Asp Ser Lys Ile Lys
50 55 60

Lys Ile Val His Ser Ile Val Ser Ser Phe Ala Phe Gly Leu Phe Gly
65 70 75 80

Val Phe Leu Val Leu Leu Asp Val Thr Leu Ile Leu Ala Asp Leu Ile
85 90 95

Phe Thr Asp Ser Lys Leu Tyr Ile Pro Leu Glu Tyr Arg Ser Ile Ser
100 105 110

Leu Ala Ile Ala Leu Phe Phe Leu Met Asp Val Leu Leu Arg Val Phe
115 120 125

Val Glu Arg Arg Gln Gln Tyr Phe Ser Asp Leu Phe Asn Ile Leu Asp
130 135 140

Thr Ala Ile Ile Val Ile Leu Leu Leu Val Asp Val Val Tyr Ile Phe
145 150 155 160

Phe Asp Ile Lys Leu Leu Arg Asn Ile Pro Arg Trp Thr His Leu Leu
165 170 175

Arg Leu Leu Arg Leu Ile Ile Leu Leu Arg Ile Phe His Leu Phe His
180 185 190

Gln Lys Arg Gln Leu Glu Lys Leu Ile Arg Arg Arg Val Ser Glu Asn
Page 53

195

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200 205

Lys Arg Arg Tyr Thr Arg Asp Gly Phe Asp Leu Asp Leu Thr Tyr Val
 210 215 220
 Thr Glu Arg Ile Ile Ala Met Ser Phe Pro Ser Ser Gly Arg Gln Ser
 225 230 235 240
 Phe Tyr Arg Asn Pro Ile Lys Glu Val Val Arg Phe Leu Asp Lys Lys
 245 250 255
 His Arg Asn His Tyr Arg Val Tyr Asn Leu Cys Ser Glu Arg Ala Tyr
 260 265 270
 Asp Pro Lys His Phe His Asn Arg Val Val Arg Ile Met Ile Asp Asp
 275 280 285
 His Asn Val Pro Thr Leu His Gln Met Val Val Phe Thr Lys Glu Val
 290 295 300
 Asn Glu Trp Met Ala Gln Asp Leu Glu Asn Ile Val Ala Ile His Cys
 305 310 315 320
 Lys Gly Gly Thr Asp Arg Thr Gly Thr Met Val Cys Ala Phe Leu Ile
 325 330 335
 Ala Ser Glu Ile Cys Ser Thr Ala Lys Glu Ser Leu Tyr Tyr Phe Gly
 340 345 350
 Glu Arg Arg Thr Asp Lys Thr His Ser Glu Lys Phe Gln Gly Val Glu
 355 360 365
 Thr Pro Ser Val Leu Asp Asn Ile Thr Thr Asp Lys Ile Leu Ile Asp
 370 375 380
 Val Phe Asp Gly Pro Pro Leu Tyr Asp Asp Val Lys Val Gln Phe Phe
 385 390 395 400
 Tyr Ser Asn Leu Pro Thr Tyr Tyr Asp Asn Cys Ser Phe Tyr Phe Trp
 405 410 415
 Leu His Thr Ser Phe Ile Glu Asn Asn Arg Leu Tyr Leu Pro Lys Asn
 420 425 430
 Glu Leu Asp Asn Leu His Lys Gln Lys Ala Arg Arg Ile Tyr Pro Ser
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 Asp Phe Ala Val Glu Ile Leu Phe Gly Glu Lys Met Thr Ser Ser Asp
 450 455 460

Val Val Ala Gly Ser Asp
465 470

<210> 61

<211> 450

<212> PRT

<213> Homo sapiens

<400> 61

Met Asn Glu Ser Pro Asp Pro Thr Asp Leu Ala Gly Val Ile Ile Glu
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Leu Gly Pro Asn Asp Ser Pro Gln Thr Ser Glu Phe Lys Gly Ala Thr
20 25 30

Glu Glu Ala Pro Ala Lys Glu Ser Val Leu Ala Arg Leu Ser Lys Phe
35 40 45

Glu Val Glu Asp Ala Glu Asn Val Ala Ser Tyr Asp Ser Lys Ile Lys
50 55 60

Lys Ile Val His Ser Ile Val Ser Ser Phe Ala Phe Gly Leu Phe Gly
65 70 75 80

Val Phe Leu Val Leu Leu Asp Val Thr Leu Ile Leu Ala Asp Leu Ile
85 90 95

Phe Thr Asp Ser Lys Leu Tyr Ile Pro Leu Glu Tyr Arg Ser Ile Ser
100 105 110

Leu Ala Ile Ala Leu Phe Phe Leu Met Asp Val Leu Leu Arg Val Phe
115 120 125

Val Glu Arg Arg Gln Gln Tyr Phe Ser Asp Leu Phe Asn Ile Leu Asp
130 135 140

Thr Ala Ile Ile Val Ile Leu Leu Leu Val Asp Val Val Tyr Ile Phe
145 150 155 160

Phe Asp Ile Lys Leu Leu Arg Asn Ile Pro Arg Trp Thr His Leu Leu
165 170 175

Arg Leu Leu Arg Leu Ile Ile Leu Leu Arg Ile Phe His Leu Phe His
180 185 190

Gln Lys Arg Gln Leu Glu Lys Leu Ile Arg Arg Arg Val Ser Glu Asn
195 200 205

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Lys Arg Arg Tyr Thr Arg Asp Gly Phe Asp Leu Asp Leu Thr Tyr Val
 210 215 220
 Thr Glu Arg Ile Ile Ala Met Ser Phe Pro Ser Ser Gly Arg Gln Ser
 225 230 235 240
 Phe Tyr Arg Asn Pro Ile Lys Glu Val Val Arg Phe Leu Asp Lys Lys
 245 250 255
 His Arg Asn His Tyr Arg Val Tyr Asn Leu Cys Ser Glu Arg Ala Tyr
 260 265 270
 Asp Pro Lys His Phe His Asn Arg Val Val Arg Ile Met Ile Asp Asp
 275 280 285
 His Asn Val Pro Thr Leu His Gln Met Val Val Phe Thr Lys Glu Val
 290 295 300
 Asn Glu Trp Met Ala Gln Asp Leu Glu Asn Ile Val Ala Ile His Cys
 305 310 315 320
 Lys Gly Gly Thr Gly Tyr Val Arg Asp Leu Lys Ile Gln Ile Glu Met
 325 330 335
 Glu Lys Lys Val Val Phe Ser Thr Ile Ser Leu Gly Lys Cys Ser Val
 340 345 350
 Leu Asp Asn Ile Thr Thr Asp Lys Ile Leu Ile Asp Val Phe Asp Gly
 355 360 365
 Pro Pro Leu Tyr Asp Asp Val Lys Val Gln Phe Phe Tyr Ser Asn Leu
 370 375 380
 Pro Thr Tyr Tyr Asp Asn Cys Ser Phe Tyr Phe Trp Leu His Thr Ser
 385 390 395 400
 Phe Ile Glu Asn Asn Arg Leu Tyr Leu Pro Lys Asn Glu Leu Asp Asn
 405 410 415
 Leu His Lys Gln Lys Ala Arg Arg Ile Tyr Pro Ser Asp Phe Ala Val
 420 425 430
 Glu Ile Leu Phe Gly Glu Lys Met Thr Ser Ser Asp Val Val Ala Gly
 435 440 445
 Ser Asp
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<210> 62

<211> 1299

<212> DNA

<213> Homo sapiens

<400> 62

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aggcagcttc ctgcagacat gacagtcaac gcaaaactcat gtcactgtgg gcagacacat      180
gtttgcaaag agactcagag ccaaacaagc acaactcaatg tgctttgccc aaattttaccc      240
attaggtaaa tcttcctcc tcccaagaag aaagtggaga gagcatgagt cctcacatgg      300
gaacttgaag tcagggaat gaaggctcac caattatttg tgcattgggtt taagttttcc      360
ttgaaattaa gttcaggttt gtctttgtgt gtaccaatta atgacaagag gttagataga      420
agtatgctag atggcaaaga gaaatatgtt ttgtgtcttc aattttgcta aaaataaccc      480
agaacatgga taattcattt attaattgat tttggttaagc caagtcctat ttggagaaaa      540
ttaatagttt ttctaaaaaa gaattttctc aatatcacct ggcttgataa cttttttctc      600
cttcgagttc ctttttctgg agtttaacaa acttggttctt taaaaataga ttatattgac      660
tacctctcac tgatgttatg atattagttt ctattgctta ctttgtattt ctaatttttag      720
gattcacaat ttagctggag aactattttt taacctgttg cacctaaaca tgattgagct      780
agaagacagt ttaccatat gcatgcattt tctctgagtt atattttaaa atctatacat      840
ttctcctaaa tatggaggaa atcactggca tcaaagcca gtctcagacg gaagacctaa      900
agcccatttc tggcctggag ctacttggct ttgtgacctt tggtagggca taagtgtctt      960
gagtttgtgt tgcctctttt gtaaaatgag ggtttgactt aatcagtgat tttcatagct     1020
taaaattttt ttgaagaaca gaactttttt taaaaacagt tagatgcaac catattatat     1080
aaaacagaac agatacaagt agagctaact tgctaaagaa aggatggagg ctctgaagct     1140
gtgacttcat tatcccttaa tactgctatg tcctctgtag taccttagat ttctatggga     1200
catcgtttaa aaactattgt ttatgcgaga gccttgctaa tttcctaaaa attgtggata     1260
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<210> 63

<211> 405

<212> DNA

<213> Homo sapiens

<400> 63

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 gggccctgcg ggccaccccc ccaccatggt ccagggccct gcgggcctcc ccctggccat 240
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<210> 64

<211> 106

<212> PRT

<213> Homo sapiens

<400> 64

Met Asp Pro Gly Pro Lys Gly His Cys His Cys Gly Gly His Gly His
 1 5 10 15

Pro Pro Gly His Cys Gly Pro Pro Pro Gly His Gly Pro Gly Pro Cys
 20 25 30

Gly Pro Pro Pro Thr Met Val Gln Gly Pro Ala Gly His Pro Leu Ala
 35 40 45

Met Ala Gln Gly Pro Ala Gly His Pro Pro Thr Met Val Gln Gly Pro
 50 55 60

Ala Gly Leu Pro Leu Ala Met Ala Gln Val Thr His Pro Leu Val His
 65 70 75 80

Ile Thr Glu Glu Val Glu Glu Asn Arg Thr Gln Asp Gly Lys Pro Glu
 85 90 95

Arg Ile Ala Gln Leu Thr Trp Asn Glu Ala
 100 105

<210> 65

<211> 71

<212> PRT

<213> Homo sapiens

<400> 65

Met Ala Ile Leu Gln Val Thr Ala Gly His Pro Leu Ala Met Ala Gln
 1 5 10 15

Gly Pro Ala Gly His Pro Pro Pro Trp Ser Arg Ala Leu Arg Ala Thr
 20 25 30

Pro Trp Pro Trp Pro Arg Ala Leu Arg Ala Thr Pro Pro Pro Trp Ser
 35 40 45

Arg Ala Leu Arg Ala Ser Pro Trp Pro Trp Pro Arg Ser Pro Thr Pro
 50 55 60

Trp Ser Thr Ser Leu Arg Lys
 65 70

<210> 66

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of the artificial sequence: Oligonucleotide

<400> 66

agacatggct cagatgtgca g

21

<210> 67

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of the artificial sequence: oligonucleotide

<400> 67

ggaaattagc aaggctctcg c

21

<210> 68

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of the artificial sequence: Oligonucleotide

<400> 68

tcaggatttc cctgctctta c

21

<210> 69

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of the artificial sequence: Oligonucleotide

<400> 69

tgggcaattc tctcaggctt g

21

<210> 70

<211> 908

<212> DNA

<213> Homo sapiens

<400> 70

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tgtcctctc taccctggtg atccccctcg ctgcagctcc tatccatgat gctgacgccc	180
aagagagctc cttgggtctc acaggcctcc agagcctact ccaaggcttc agccgacttt	240
tcctgaaagg taacctgctt cggggcatag acagcttatt ctctgcccc atggacttcc	300
ggggcctccc tgggaactac cacaagagg agaaccagga gcaccagctg gggacaaca	360
ccctctccag ccacctccag atcgacaaga tgaccgacaa caagacagga gaggtgctga	420
tctccgagaa tgtggtggca tccattcaac cagcggaggg gagcttcgag ggtgatttga	480
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tccacacaga actccatccc cgggtggcct tctggatcat taagctgcca cggcggagg	600
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gctcctccca ctccaggctg tcccccgaa agaccactt actgtacatc ctcaggccct	780
ctcggcagct gtaggggtgg ggaccgggga gcacctgcct gtagccccca tcagaccctg	840
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aaaaaaaa	908

<210> 71

<211> 242

<212> PRT

<213> Homo sapiens

<400> 71

Met Gly Glu Ala Ser Pro Pro Ala Pro Ala Arg Arg His Leu Leu Val
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 20 25 30
 Ile His Asp Ala Asp Ala Gln Glu Ser Ser Leu Gly Leu Thr Gly Leu
 35 40 45
 Gln Ser Leu Leu Gln Gly Phe Ser Arg Leu Phe Leu Lys Gly Asn Leu
 50 55 60
 Leu Arg Gly Ile Asp Ser Leu Phe Ser Ala Pro Met Asp Phe Arg Gly
 65 70 75 80
 Leu Pro Gly Asn Tyr His Lys Glu Glu Asn Gln Glu His Gln Leu Gly
 85 90 95
 Asn Asn Thr Leu Ser Ser His Leu Gln Ile Asp Lys Met Thr Asp Asn
 100 105 110
 Lys Thr Gly Glu Val Leu Ile Ser Glu Asn Val Val Ala Ser Ile Gln
 115 120 125
 Pro Ala Glu Gly Ser Phe Glu Gly Asp Leu Lys Val Pro Arg Met Glu
 130 135 140
 Glu Lys Glu Ala Leu Val Pro Ile Gln Lys Ala Thr Asp Ser Phe His
 145 150 155 160
 Thr Glu Leu His Pro Arg Val Ala Phe Trp Ile Ile Lys Leu Pro Arg
 165 170 175
 Arg Arg Ser His Gln Asp Ala Leu Glu Gly Gly His Trp Leu Ser Glu
 180 185 190
 Lys Arg His Arg Leu Gln Ala Ile Arg Asp Gly Leu Arg Lys Gly Thr
 195 200 205
 His Lys Asp Val Leu Glu Glu Gly Thr Glu Ser Ser Ser His Ser Arg
 210 215 220
 Leu Ser Pro Arg Lys Thr His Leu Leu Tyr Ile Leu Arg Pro Ser Arg
 225 230 235 240

Gln Leu

<210> 72

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of the artificial sequence: Oligonucleotide

<400> 72

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21

<210> 73

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of the artificial sequence: Oligonucleotide

<400> 73

cctgaggatg tacagtaagt g

21

<210> 74

<211> 2987

<212> DNA

<213> Homo sapiens

<400> 74

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gagaatattc attcaagcca agagagttaa aactaaacat ctttgctatt gcctctacag 120

accagaaaag tatctttatg tcacatcttc ttttaaagga gcatttaaag atgaagttaa 180

aaaggcagaa gaagcagtaa agattgctga atccatattg aaagaagcac aaatcaaagt 240

aaaccagtgt gacagaacct ctttatcttc tgccaaggat gtattacaga gagctttgga 300

agatgtagaa gcaaagcaaa agaatcttaa agagaaacaa agagaattaa aaacagcaag 360

aacgctctcc ctgttctatg gagtgaacgt agaaaaccga agccaagctg gaatgttcat 420

ttacagtaat aaccgtttga tcaaaatgca tgaaaaagtg ggctcacagt tgaaactgaa 480

gtccttactt ggcgcaggcg tggttggaat tggttaatata cccttggagg tcatggaacc 540

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taaatggaga	gtcttgcctt	cctctactaa	ttatcaggaa	aaagaatttt	ttgacatttg	840
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tgatgtagag	tatatttcag	aaacaaaaat	tatgaaaaag	tctatggagg	agaaaatgaa	1260
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aaaccaagaa	aaacaggagc	tgtgcaatga	tgttctagca	atgaaaagaa	gctcttcatt	1620
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gaatacttac	atggtccaat	atgaaaaaaa	aataaagagg	aaattgcagt	ccattatcta	1980
tgattcaaat	acaagaggaa	tacataatga	aatctctctg	gggcaatgtg	aaaataaaaag	2040
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gcttaaagaa	gataatcttc	tcttccagaa	caatttaa	aaagtaacta	tagatgcaag	2220
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tccaattatc	taaatcttcc	ttttctttca	gaaatattaa	taatattctag	agttctctaa	2520

342-3PCT.ST25.txt

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 aaaactttga gacatagctt atataatttt attatttagt catagtaaaa gaataaatct 2820
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 atacgtaaag aagtatgttt ttacactttt cttgataagt gttttttttt tgttttagaaa 2940
 tgtctgaaac tttagacaaa aacagtaaaa catttaatat tcatttg 2987

<210> 75

<211> 735

<212> PRT

<213> Homo sapiens

<400> 75

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Tyr Cys Leu Tyr Arg Pro Arg Lys Tyr Leu Tyr Val Thr Ser Ser Phe
 20 25 30

Lys Gly Ala Phe Lys Asp Glu Val Lys Lys Ala Glu Glu Ala Val Lys
 35 40 45

Ile Ala Glu Ser Ile Leu Lys Glu Ala Gln Ile Lys Val Asn Gln Cys
 50 55 60

Asp Arg Thr Ser Leu Ser Ser Ala Lys Asp Val Leu Gln Arg Ala Leu
 65 70 75 80

Glu Asp Val Glu Ala Lys Gln Lys Asn Leu Lys Glu Lys Gln Arg Glu
 85 90 95

Leu Lys Thr Ala Arg Thr Leu Ser Leu Phe Tyr Gly Val Asn Val Glu
 100 105 110

Asn Arg Ser Gln Ala Gly Met Phe Ile Tyr Ser Asn Asn Arg Leu Ile
 115 120 125

Lys Met His Glu Lys Val Gly Ser Gln Leu Lys Leu Lys Ser Leu Leu
 130 135 140

Gly Ala Gly Val Val Gly Ile Val Asn Ile Pro Leu Glu Val Met Glu
 145 150 155 160

Pro Ser His Asn Lys Gln Glu Phe Leu Asn Val Gln Glu Tyr Asn His
 165 170 175
 Leu Leu Lys Val Met Gly Gln Tyr Leu Val Gln Tyr Cys Lys Asp Thr
 180 185 190
 Gly Ile Asn Asn Arg Asn Leu Thr Leu Phe Cys Asn Glu Phe Gly Tyr
 195 200 205
 Gln Asn Asp Ile Asp Val Glu Lys Pro Leu Asn Ser Phe Gln Tyr Gln
 210 215 220
 Arg Arg Gln Ala Met Gly Ile Pro Phe Ile Ile Gln Cys Asp Leu Cys
 225 230 235 240
 Leu Lys Trp Arg Val Leu Pro Ser Ser Thr Asn Tyr Gln Glu Lys Glu
 245 250 255
 Phe Phe Asp Ile Trp Ile Cys Ala Asn Asn Pro Asn Arg Leu Glu Asn
 260 265 270
 Ser Cys His Gln Val Glu Cys Leu Pro Ser Ile Pro Leu Gly Thr Met
 275 280 285
 Ser Thr Ile Ser Pro Ser Lys Asn Glu Lys Glu Lys Gln Leu Arg Glu
 290 295 300
 Ser Val Ile Lys Tyr Gln Asn Arg Leu Ala Glu Gln Gln Pro Gln Pro
 305 310 315 320
 Gln Phe Ile Pro Val Asp Glu Ile Thr Val Thr Ser Thr Cys Leu Thr
 325 330 335
 Ser Ala His Lys Glu Asn Thr Lys Thr Gln Lys Ile Arg Leu Leu Gly
 340 345 350
 Asp Asp Leu Lys His Glu Ser Leu Ser Ser Phe Glu Leu Ser Ala Ser
 355 360 365
 Arg Arg Gly Gln Lys Arg Asn Ile Glu Glu Thr Asp Ser Asp Val Glu
 370 375 380
 Tyr Ile Ser Glu Thr Lys Ile Met Lys Lys Ser Met Glu Glu Lys Met
 385 390 395 400
 Asn Ser Gln Gln Gln Arg Ile Pro Val Ala Leu Pro Glu Asn Val Lys
 405 410 415
 Leu Ala Glu Arg Ser Gln Arg Ser Gln Ile Ala Asn Ile Thr Thr Val

Trp Arg Ala Gln Pro Thr Glu Gly Cys Leu Lys Asn Ala Gln Ala Ala
435 440 445

Ser Trp Glu Met Lys Arg Lys Gln Ser Leu Asn Phe Val Glu Glu Cys
450 455 460

Lys Val Leu Thr Glu Asp Glu Asn Thr Ser Asp Ser Asp Ile Ile Leu
465 470 475 480

Val Ser Asp Lys Ser Asn Thr Asp Val Ser Leu Lys Gln Glu Lys Lys
485 490 495

Glu Ile Pro Leu Leu Asn Gln Glu Lys Gln Glu Leu Cys Asn Asp Val
500 505 510

Leu Ala Met Lys Arg Ser Ser Ser Leu Pro Ser Trp Lys Ser Leu Leu
515 520 525

Asn Val Pro Met Glu Asp Val Asn Leu Ser Ser Gly His Ile Ala Arg
530 535 540

Val Ser Val Ser Gly Ser Cys Lys Val Ala Ser Ser Pro Ala Ser Ser
545 550 555 560

Gln Ser Thr Pro Val Lys Glu Thr Val Arg Lys Leu Lys Ser Lys Leu
565 570 575

Arg Glu Ile Leu Leu Tyr Phe Phe Pro Glu His Gln Leu Pro Ser Glu
580 585 590

Leu Glu Glu Pro Ala Leu Ser Cys Glu Leu Glu Gln Cys Pro Glu Gln
595 600 605

Met Asn Lys Lys Leu Lys Met Cys Phe Asn Gln Ile Gln Asn Thr Tyr
610 615 620

Met Val Gln Tyr Glu Lys Lys Ile Lys Arg Lys Leu Gln Ser Ile Ile
625 630 635 640

Tyr Asp Ser Asn Thr Arg Gly Ile His Asn Glu Ile Ser Leu Gly Gln
645 650 655

Cys Glu Asn Lys Arg Lys Ile Ser Glu Asp Lys Leu Lys Asn Leu Arg
660 665 670

Ile Lys Leu Ala Leu Leu Leu Gln Lys Leu Gln Leu Gly Gly Pro Glu
675 680 685



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Gly Asp Leu Glu Gln Thr Asp Thr Tyr Leu Glu Ala Leu Leu Lys Glu
690 695 700

Asp Asn Leu Leu Phe Gln Asn Asn Leu Asn Lys Val Thr Ile Asp Ala
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Arg His Arg Leu Pro Leu Glu Lys Asn Glu Lys Thr Ser Glu Asn
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<210> 76

<211> 21

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence: Oligonucleotide

<400> 76

ctgagtatca gctaccatca g

21

<210> 77

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of the artificial sequence: Oligonucleotide

<400> 77

tctgtagtcc ttcacatatc g

21

<210> 78

<211> 21

<212> DNA

<213> Artificial sequence

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<223> Description of the artificial sequence: Oligonucleotide

<400> 78

ttttgtctat ggtgtaggac c

21

<210> 79

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of the artificial sequence: Oligonucleotide

<400> 79

ggaatggcaa tgatgttaca g

21

<210> 80

<211> 20

<212> PRT

<213> Homo sapiens

<400> 80

Met Ser Thr Val Lys Glu Gln Leu Ile Glu Lys Leu Ile Glu Asp Asp
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20

<210> 81

<211> 14

<212> PRT

<213> Homo sapiens

<400> 81

Phe Thr Asp Ser Lys Leu Tyr Ile Pro Leu Glu Tyr Arg Ser
1 5 10

<210> 82

<211> 13

<212> PRT

<213> Homo sapiens

<400> 82

Phe Asp Ile Lys Leu Leu Arg Asn Ile Pro Arg Trp Thr
1 5 10

<210> 83

<211> 15

<212> PRT

<213> Homo sapiens

<400> 83

Gly	Val	Ala	Gly	Gln	Asp	Tyr	Trp	Ala	Val	Leu	Ser	Gly	Lys	Gly
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<210> 84

<211> 10

<212> PRT

<213> Homo sapiens

<400> 84

Ser	Arg	Glu	Val	Thr	Thr	Asn	Ala	Gln	Arg
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<210> 85

<211> 216

<212> DNA

<213> Homo sapiens

<400> 85

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caagcctgag agaattgccc agctgacctg gaaggaggcc taaaccgcaa tattctcttc	180
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<211> 227

<212> DNA

<213> Homo sapiens

<400> 86

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gacacaagat ggcaagcctg agagaattgc ccagctgacc tggaatgagg cctaaaccac	180

aatctttctt tcctaataaa cagcctccta gagggcacat tctattc

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<211> 261

<212> DNA

<213> Homo sapiens

<400> 87

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ggtccacatc actgaggaag tagaagaaaa caggacacaa gatggcaagc ctgagagaat 180
tgcccagctg acctggaatg aggcctaaac cacaatcttc tcttcctaataaacagcctc 240
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<210> 88

<211> 327

<212> DNA

<213> Homo sapiens

<400> 88

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gagaattgcc cagctgacct ggaatgaggc ctaaaccaca atcttctctt cctaataaac 300
agcctcctag aggccacatt ctattct 327

<210> 89

<211> 31

<212> PRT

<213> Homo sapiens

<400> 89

Leu Leu Leu Gln Lys Asp Gly Pro Arg Ala Leu Arg Ala Ser Pro Trp
1 5 10 15

Pro Trp Pro Arg Ser Pro Thr Pro Trp Ser Thr Ser Leu Arg Lys
20 25 30

<210> 90

<211> 23

<212> PRT

<213> Homo sapiens

<400> 90

Met Asp Pro Gly Pro Cys Gly Pro Pro Pro Gly His Gly Pro Gly His
1 5 10 15

Pro Pro Pro Gly Pro His His
20

<210> 91

<211> 36

<212> PRT

<213> Homo sapiens

<400> 91

Met Ala Gln Val Thr His Pro Leu Val His Ile Thr Glu Glu Val Glu
1 5 10 15

Glu Asn Arg Thr Gln Asp Gly Lys Pro Glu Arg Ile Ala Gln Leu Thr
20 25 30

Trp Lys Glu Ala
35

<210> 92

<211> 34

<212> PRT

<213> Homo sapiens

<400> 92

Leu Leu Gln Lys Asp Gly Pro Arg Ser Glu Gly Ala Leu Pro Leu Trp
1 5 10 15

Gly Ala Trp Pro Ser Ser Arg Ser Pro Thr Pro Trp Ser Thr Ser Leu
20 25 30

Arg Lys

<210> 93

<211> 27

<212> PRT

<213> Homo sapiens

<400> 93

Met Asp Pro Gly Pro Lys Gly His Cys His Cys Gly Gly His Gly His
1 5 10 15

Pro Pro Gly His Pro Pro Pro Gly Pro His His
20 25

<210> 94

<211> 38

<212> PRT

<213> Homo sapiens

<400> 94

Met Ala Ile Leu Gln Val Thr His Pro Leu Val His Ile Thr Glu Glu
1 5 10 15

Val Glu Glu Asn Arg Thr Gln Asp Gly Lys Pro Glu Arg Ile Ala Gln
20 25 30

Leu Thr Trp Asn Glu Ala
35

<210> 95

<211> 46

<212> PRT

<213> Homo sapiens

<400> 95

Leu Leu Leu Gln Lys Asp Gly Pro Arg Ser Glu Gly Ala Leu Pro Leu
1 5 10 15

Trp Gly Ala Trp Pro Ser Ser Arg Ser Leu Arg Ala Ser Pro Trp Pro
20 25 30

Trp Pro Arg Ser Pro Thr Pro Trp Ser Thr Ser Leu Arg Lys
 35 40 45

<210> 96

<211> 38

<212> PRT

<213> Homo sapiens

<400> 96

Met Asp Pro Gly Pro Lys Gly His Cys His Cys Gly Gly His Gly His
 1 5 10 15

Pro Pro Gly His Cys Gly Pro Pro Pro Gly His Gly Pro Gly His Pro
 20 25 30

Pro Pro Gly Pro His His
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<210> 97

<211> 49

<212> PRT

<213> Homo sapiens

<400> 97

Met Ala Ile Leu Gln Val Thr Ala Gly Leu Pro Leu Ala Met Ala Gln
 1 5 10 15

Val Thr His Pro Leu Val His Ile Thr Glu Glu Val Glu Glu Asn Arg
 20 25 30

Thr Gln Asp Gly Lys Pro Glu Arg Ile Ala Gln Leu Thr Trp Asn Glu
 35 40 45

Ala

<210> 98

<211> 68

<212> PRT

<213> Homo sapiens

<400> 98

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Leu Leu Leu Gln Lys Asp Gly Pro Arg Ser Glu Gly Ala Leu Pro Leu
1 5 10 15

Trp Gly Ala Trp Pro Ser Ser Arg Ser Leu Arg Ala Thr Pro Pro Pro
20 25 30

Trp Ser Arg Ala Leu Arg Ala Thr Pro Pro Pro Trp Ser Arg Ala Leu
35 40 45

Arg Ala Ser Pro Trp Pro Trp Pro Arg Ser Pro Thr Pro Trp Ser Thr
50 55 60

Ser Leu Arg Lys
65

<210> 99

<211> 60

<212> PRT

<213> Homo sapiens

<400> 99

Met Asp Pro Gly Pro Lys Gly His Cys His Cys Gly Gly His Gly His
1 5 10 15

Pro Pro Gly His Cys Gly Pro Pro Pro His His Gly Pro Gly Pro Cys
20 25 30

Gly Pro Pro Pro His His Gly Pro Gly Pro Cys Gly Pro Pro Pro Gly
35 40 45

His Gly Pro Gly His Pro Pro Pro Gly Pro His His
50 55 60

<210> 100

<211> 71

<212> PRT

<213> Homo sapiens

<400> 100

Met Ala Ile Leu Gln Val Thr Ala Gly His Pro Pro Thr Met Val Gln
1 5 10 15

Gly Pro Ala Gly His Pro Pro Thr Met Val Gln Gly Pro Ala Gly Leu
20 25 30

342-3PCT.ST25.txt

Pro Leu Ala Met Ala Gln Val Thr His Pro Leu Val His Ile Thr Glu
35 40 45

Glu Val Glu Glu Asn Arg Thr Gln Asp Gly Lys Pro Glu Arg Ile Ala
50 55 60

Gln Leu Thr Trp Asn Glu Ala
65 70